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HOSHINO TAIZO**(54) IMPROVEMENT OF SiC THERMAL OXIDATION FILM****(57)Abstract:**

PROBLEM TO BE SOLVED: To provide a method for improving heat oxidation film characteristics so as to resolve the hysteresis and flat band shift of the C-V characteristics of a MOS capacitor which uses a thermal oxidation film formed on an SiC single crystal.

SOLUTION: After thermally oxidizing SiC, heat treatment is performed in the atmosphere of inactive gas such as Ar, He and N₂, and in the H₂ atmosphere, and hysteresis and flat band shift are resolved from the oxide film. The hysteresis is resolved by heat treatment in the H₂ atmosphere. The flat band shift is resolved by offsetting the flat band shift in the accumulation direction generated in the heat treatment by the inactive gas against the flat band shift in the inversion direction generated by the H₂ treatment. As for the heat treatment in the inactive gas atmosphere and H₂ atmosphere, the equivalent effects are obtained regardless of the order.

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